Marine Biological Lab : Tory
LIBRARY

MAR 1 9 1951

WOODS HOLE, MASS.

PROCEEDINGS

OF THE

CALIFORNIA ACADEMY OF SCIENCES

Fourth Series

Vol. XXVII, No. 1, pp. 1-16

March 7, 1951

OBSERVATIONS ON THE BIRDS OF NORTHEASTERN IDAHO

BY

ROBERT T. ORR

California Academy of Sciences

Several important papers have been published relative to the occurrence and distribution of birds in northern Idaho, notably by Merrill (1897, 1898), Rust (1915), Burleigh (1923), Hand (1941), and Johnson (1949). Very little information, however, is available regarding the avifauna of the Selway-Bitterroot region which lies considerably to the south and east of any of the areas encompassed in the previously mentioned reports. This is evident in Arvey's check-list of the birds of Idaho (1947) in which are included most of the published records relating to avian distribution in that state.

Aware of this deficiency in our knowledge of both the birds and mammals of this particular region, the writer devoted the month of September, 1941, to collecting and observing higher vertebrates in the Clearwater Mountains of Idaho County, Idaho. These studies were continued during July, 1948, in the northwestern part of the adjacent Bitterroot Mountains, farther east in the same county. It was possible, therefore, from the collections and observations made during these two months, to gain a fair impression of the avian composition of this area in summer and autumn.

R. L. Hand (supra cit., pp. 220-232), who made observations over a period of a good many years in the St. Joe National Forest farther north in Idaho, remarked upon the rather significant differences between the avi-

fauna of that country and that of the Lochsa River drainage some forty to fifty miles farther south. He attributed these, at least in part, to the change from a typically dominant white pine forest in the former area to a cedar-fir forest at comparable elevations in the latter region. The present study confirmed some of these suggested differences and, as will be seen upon comparison with Hand's list, indicates even others.

The Clearwater and Bitterroot mountain systems essentially constitute one continuous range, although their geological histories differ somewhat. According to Lindgren (1904) the Clearwaters were originally a plateau formed by two uplifts in Mesozoic times. Each of these uplifts was sueceeded by a period of active erosion. At a much later date the movement of a fault about sixty miles long in the eastern part of this region resulted both in the formation of the Bitterroot Mountains, along whose summits the Idaho-Montana boundary line now extends, and the low Bitterroot Valley to the eastward in western Montana. Little evidence of Pleistocene glaciation is to be found in the Clearwaters, whose peaks presently range from 6,000 to 8,000 feet in height. The Bitterroots, however, which are several thousand feet higher were obviously subjected to intense glacial action.

The Clearwater Mountains, therefore, as was pointed out by Van Dyke (1919) with regard to their insect fauna, represent a region that is old in a biological sense. The area is characterized, climatically, both by relatively high precipitation and by high humidity (Orr, 1943). This is reflected in the vegetation which is of a rain-forest type, containing many species that are dominant along the humid, Pacific northwest, coastal belt. The floral composition differs so markedly from that to the east and south in the Rocky Mountains, as well as from that of the relatively arid Columbian plateau to the west, that Pitelka (1941) referred to it as the Coastal-Montane Forest Ecotone, and Munro and Cowan (1947) named the northward extension of this same rain forest, in southeastern British Columbia, the Columbian Forest Biotic Area. Its existence, therefore, seems likely to have been a significant factor responsible for the eastward extension of the ranges of at least a few species of birds, such as the Vaux swift, chestnut-backed chickadee, and Townsend warbler. To be sure, none of these species is confined to the coastal and inland rain forests in the Pacific northwest, but it is here that their populations are principally centered.

Throughout the extensive mountain systems under discussion, except in areas denuded by fire, the slopes below 5,000 feet elevation are covered with dense coniferous forests composed principally of Douglas fir (Pseudotsuga taxifolia), grand fir (Abies grandis), western red cedar (Thuja plicata), western yew (Taxus brevifolia), and occasionally some yellow pine (Pinus ponderosa). The undergrowth is extremely dense. Locally, red cedar may be found in relatively pure stands and frequently there is a downward infiltration of various species of trees characteristic of the higher altitudes.

Above 5,000 feet, in general, the forest composition changes to Englemann spruce (Picea englemannii), alpine fir (Abies amabilis), western white pine (Pinus monticola), lodgepole pine (Pinus contorta var. murryana), and some western larch (Larix occidentalis). At 7,000 feet open, subalpine forests of white bark pine (Pinus albicaulis), with an undergrowth of red heather (Phyllodoce empetriformis), Labrador tea (Ledum glandulosum), and other Hudsonian plants are common and extend to timber line which occurs at an average elevation of 7,500 feet.

Since many parts of this region have been subjected to severe fires in past years, there are extensive tracts of brushland in which second growth, coniferous forests are slowly making their appearance. Meadows, however, even of small size, are extremely scarce.

During the two periods previously referred to in which the writer had opportunity to observe and collect higher vertebrates in this part of northeastern Idaho, sixty-seven species of birds were definitely recorded. This number represents approximately one-fourth of the avian species listed by Arvey (1947) as occurring or having occurred within historic times in the entire state.

In September, 1941, activities were confined principally to the western part of the Clearwater Mountains along the Selway Fork of the middle branch of the Clearwater River in the general vicinity of Selway Falls and, to a limited extent, the Crags Mountains. In July, 1948, field work was restricted to the headwaters of the Lochsa Fork of the middle branch of the Clearwater River, immediately west of Lolo Pass, in the northern part of the Bitterroots and the northeastern part of the Clearwaters. The writer was assisted in the field in 1941 by G. Dallas Hanna, Anatole S. Loukashkin, and Cecil Tose, and in 1948 by Dorothy B. Orr. Grateful acknowledgment is here made of the courtesies extended by the Idaho Department of Fish and Game during the course of this study.

Mergus merganser. Common merganser. Noted commonly along the middle branch of the Clearwater River between Kooskia and Selway Falls on September 5. Two individuals were observed flying downstream near Selway Falls on the evening of September 8.

Accipiter striatus velox. Sharp-shinned hawk. One specimen was secured on September 6, 2 miles south-southeast of Selway Falls. At this same locality, on September 9, another sharp-shinned hawk was seen to capture a small bird in the forest.

Accipiter cooperii. Cooper hawk. One individual was noted flying through an Englemann spruce forest 6 miles south-southwest of Lolo Pass on July 20. On September 8 a Cooper hawk was collected 2 miles south-southeast of Selway Falls.



Buteo jamaicensis. Red-tailed hawk. This species was not uncommon in July in the vicinity of Lolo Pass. Individuals were frequently observed during September near Selway Falls, especially in burned-over areas where there were many tall, standing snags.

Aquila chrysaëtos. Golden eagle. Observed 2 miles southwest of Selway Falls on September 18, and 4 miles southwest of Selway Falls on September 25.

Haliaeetus leucocephalus. Bald eagle. An adult bald eagle was seen perched on the top of a tall, dead tree on the northern slope of a burned-over ridge, 4 miles southwest of Selway Falls, on September 16.

Pandion haliaetus. Osprey. On September 5, 2 ospreys were seen along the Selway Fork of the middle branch of the Clearwater several miles below Selway Falls.

Falco sparverius. Sparrow hawk. Three individuals were seen on September 6 during the course of a 3-mile walk toward Indian Hill Lookout, southeast of Selway Falls.

Dendragapus obscurus richardsonii. Blue grouse. In July, 1948, blue grouse were found to be very scarce in the northern part of the Bitterroot Mountains and adjacent Clearwaters. Only one observation was recorded. On July 12, a female with a small group of half-grown young was seen near the junction of Pack and Brushy creeks. Local game authorities and members of the Forest Service asserted that grouse had been scarce for several years throughout the region and attributed this largely to a natural low in the population cycle of grouse rather than a result of intensive hunting.

In September, 1941, blue grouse were extremely abundant in the western part of the Clearwater Mountains. At that time their upward migration was in progress and none was seen below 4,500 feet. They were most often observed feeding along the margins of forests or in broken types of forest that was intermingled with brush and clearings. Grassland, next to mixed brush and forest and along the edges of roads, provided the next most favored feeding sites. Greatest numbers of blue grouse were seen in the early morning and late afternoon hours. These birds were usually found in coveys, composed of 4 to 8 individuals, which appeared to be family groups including adults and young of the year. Examinations of the contents of crops and stomachs indicated that the needles of larch and fir, alder buds, and grasshoppers were the principal items of food consumed by these grouse.

Between September 11 and 27, 12 specimens (866 and 499) were collected in the Selway Falls area.

Bonasa umbellus phaia. Ruffed grouse. In September, 1941, ruffed grouse were not only as abundant as blue grouse in the Selway area but

were found to have a greater altitudinal distribution at this season. They were observed at elevations ranging from 1,900 feet, as in the canyon bottoms, to the tops of the ridges which here averaged about 6,000 feet. Members of this species showed a decided preference for dense forest undergrowth or extensive alder thickets and rarely ventured more than a few feet into the open. Usually, no more than 1 to 3 individuals were seen at a time. The only ruffed grouse crop and stomach examined contained fern fronds.

Fifteen specimens (10 3 3 and 5 \circ 9) were collected, between September 10 and 27, in the Selway region.

Otus asio. Screech owl. In the Selway region the call notes of this owl were frequently heard at night in September, both in the canyon bottoms and on the tops of the ridges. In the late afternoon of September 5 a screech owl was flushed from a tree 2 miles south-southeast of Selway Falls.

Bubo virginianus. Horned owl. Horned owls were frequently heard calling in the evening in the Selway region during September.

Glaucidium gnoma. Pigmy owl. In the late afternoon of September 16 several red-breasted nuthatches were observed harassing a pigmy owl high in a fir tree, 4 miles southwest of Selway Falls. In this same vicinity, on the night of September 21, the call notes of an owl of this species were heard.

Aegolius acadicus acadicus. Saw-whet owl. On the evening of September 12 a soft, mellow note, uttered repeatedly near our camp 4 miles southwest of Selway Falls, was attributed to one of this species. Two nights later a saw-whet owl was secured at dusk as it lit on a roadside bank at this same locality.

Chordeiles minor. Booming nighthawk. During July, in the late afternoon and early evening, nighthawks were frequently observed flying high over the canyons of Brushy Creek and Crooked Fork 4 miles south-southwest of Lolo Pass.

Chaetura vauxi. Vaux swift. This species was noted almost daily during July. Groups of from 4 to 12 individuals were seen most often in the late afternoon flying high over camp 4 miles south-southwest of Lolo Pass.

Selasphorus rufus. Rufous hummingbird. Members of this species were fairly abundant during July in the Lolo Pass region at elevations ranging from 4,000 to 7,000 feet. Individuals were most often seen in small forest clearings. An adult female was collected on July 8, 6 miles south-southwest of Lolo Pass.

Megaceryle alcyon. Belted kingfisher. Common along the larger streams during both July and September.

Colaptes cafer. Red-shafted flicker. Numerous individuals of this species were observed during both July and September in the Clearwater-Bitterroot area.

Hylatomus pileatus picinus. Pileated woodpecker. Members of this species were relatively common in the Selway region during September. They were observed in forested country at elevations ranging from 1,900 to 6,000 feet. An adult female and adult male were collected on September 13 and 17, respectively, 4 miles southwest of Selway Falls.

Sphyrapicus varius nuchalis. Yellow-bellied sapsucker. This species was noted twice 4 miles south-southwest of Lolo Pass. On July 6 an adult was observed in a small aspen grove near the entrance to a hole in one of the trees and on July 21 an immature female was collected within 100 yards of this same tree.

Sphyrapicus thyroideus. Williamson sapsucker. This species was observed only on September 23, 4 miles southwest of Selway Falls. On this date two individuals were seen, one in a Douglas fir and the other in an alpine fir.

Dendrocopos villosus monticola. Hairy woodpecker. Hairy woodpeckers' were quite numerous in the Selway region in September. Individuals were noted both in burned-over areas where there were many standing snags and in forested country. Two males and a female were secured between September 10 and 23, 4 miles southwest of Selway Falls.

Dendrocopos pubescens leucurus. Downy woodpeeker. A female of this species was secured on September 25 and another female on September 26, both in an area that had been burned over some years before and was presently overgrown with alder amid standing snags, 4 miles southwest of Selway Falls.

Picöides arcticus. Arctie three-toed woodpecker. A pair of these three-toed woodpeckers were seen close to a cavity in a tall dead tree on a ridge forested with Englemann spruce, western larch, alpine fir, lodgepole pine, and white pine, 6 miles south-southwest of Lolo Pass on July 13. The male was collected.

Picöides tridactylus fasciatus. Three-toed woodpecker. This species was observed on September 29, 4 miles southwest of Selway Falls, and, on both July 13 and 20, 6 miles south-southwest of Lolo Pass. On each of the latter two dates an adult male was secured. The male taken on July 13 was one of a pair observed on a dead tree in a spruce, fir, and pine forest within several hundred yards of a pair of Arctic three-toed woodpeckers.

Empidonax sp.? Flycatchers of this genus were observed almost daily during the month of July in mixed open forest and brushland in the Lolo

Pass region. Judging from the call notes and habitat occupied, the majority of individuals seen were believed to be Wright flycatehers (E. wrightii) but, unfortunately, no specimens were collected.

Contopus richardsonii. Wood pewee. This species was observed on but one day, September 6, when two individuals were seen in rather open forest land during the course of a 3-mile walk toward Indian Hill Lookout, southeast of Selway Falls.

Nuttallornis borealis. Olive-sided flycatcher. This species was not observed in September in the Selway region. In July, in the northeastern Clearwater and northern Bitterroot mountains, it was relatively uncommon.

Progne subis. Purple martin. On July 20 a small group of purple martins was observed flying with some Vaux swifts over the canyon at the junction of Crooked Fork and Brushy Creek, 4 miles south-southwest of Lolo Pass.

Perisoreus canadensis bicolor. Canada jay. This species was not uncommon in the higher forested parts of the Selway region. These jays were usually found in small groups. Between September 11 and 25, 5 males and 3 females were collected 4 to 5 miles southwest of Selway Falls.

Cyanocitta stelleri annectens. Steller jay. Fairly common in the Lolo Pass region during July. On July 20 an individual of this species was observed annoying a red-tailed hawk that was perched on the top of a dead tree about 6 miles south-southwest of Lolo Pass. Steller jays were more abundant, however, in forested parts of the Selway region in September. Between the 7th and 27th of that month, 3 males and 5 females were collected 2 miles south-southeast and 4 miles southwest of Selway Falls.

Corvus corax. Holarctic raven. Ravens were noted occasionally during July and September in each of the regions visited.

Nucifraga columbiana. Clark nuteracker. During July members of this species were found to be common near timber line in the northern part of the Bitterroot Mountains. On July 16 an adult male was secured 8½ miles southeast of Lolo Pass. In September this species was observed twice in the Selway region. On September 17 a flock of 15 nuterackers were seen 4 miles southwest of Selway Falls and 3 days later a few individuals were noted in the Crags Mountains.

Parus atricapillus fortuitus. Blaek-capped chickadee. This species was not observed during July in the Lolo Pass region. It may quite possibly have been overlooked since two other kinds of chickadees were present. Black-capped chickadees were frequently seen in September in the Selway region at elevations ranging from 1,900 to 5,800 feet. Two females were secured on September 6, 2 miles south-southeast of Selway Falls.

Parus gambeli grinnelli. Mountain chickadee. Noted in July and September in the Lolo Pass and Selway regions, respectively. Two specimens, both males, were collected, one on July 16, 8½ miles southeast of Lolo Pass at 7,000 feet elevation and the other on September 10, 2 miles south-southeast of Selway Falls at 1,900 feet elevation.

Parus rufescens. Chestnut-backed chickadee. This species was common in forested areas, at elevations ranging from 4,000 to 6,000 feet, along the upper parts of the Lolo Trail in July.

Sitta canadensis. Red-breasted nuthateh. Common during July in the Lolo Pass region. On July 8 a pair of red-breasted nuthatehes were observed earrying food to a nesting cavity in a standing snag 6 miles south-southwest of Lolo Pass. During September members of this species were frequently seen in the Selway region. On September 6, during the course of a 3-mile walk through forested country near Selway Falls, 15 individuals were counted.

Certhia familiaris. Brown creeper. Observed on July 4, 4 miles south-southwest of Lolo Pass. During September this species was recorded several times in the Selway region.

Cinclus mexicanus. American dipper. Dippers were frequently observed along watercourses in the Lolo Pass region during July, and, in the Selway region, during September. On July 6 a dipper nest containing 2 fairly large young was found attached to the sheer face of a rock about 10 feet directly above a deep, swift-flowing part of Brushy Creek, 5 miles south-southwest of Lolo Pass. Whenever an adult returned with food the young stuck their heads out of the opening in the lower part of the nest and called roudly. On one occasion the food fell into the water below just as one of the parents reached the nest. Instantly the adult dived into the swift current. Some seconds later it appeared on the surface but apparently had been unsuccessful in retrieving the lost item. On July 12 another dipper nest was found about one-half mile farther up the same stream. It was attached to a log that was overhanging a turbulent part of the stream. Two fairly large young were also present in this nest. During September, in the Selway region, dippers were occasionally heard singing.

Troglodytes aëdon. House wren. This species was recorded only once. On September 20, 2 individuals were seen at Canteen Meadow in the Crags Mountains. It is likely that they were migrants as the day was cold with snow falling by late afternoon.

Troglodytes troglodytes. Winter wren. This species was a common resident in heavily forested parts of the Lolo Pass region in July. Individuals were observed at elevations ranging from 4,000 to 7,000 feet. On July 24, a nest containing 4 small young was found beneath the exposed roots of a

blueberry bush on a road bank 5 miles south-southwest of Lolo Pass. Both parents were observed carrying food to the young. One of the adults was collected. Another specimen was secured on September 21, 4 miles southwest of Selway Falls.

Dumetella carolinensis. Catbird. A single individual was collected on September 8, 2 miles south-southeast of Selway Falls.

Turdus migratorius. Robin. Abundant in July in the Lolo Pass region and in September in the Selway area.

Ixoreus nacvius meruloides. Varied thrush. This species was abundantly represented in the northeastern Clearwater and northern Bitterroot mountains in July. Its local distribution corresponded rather closely to that of the winter wren. The greatest numbers of individuals were found in dense forests of spruce, fir, and, especially, western red cedar. Varied thrushes were most often heard singing between sunset and dusk. Likewise, at this time of the evening, they were frequently observed on dirt roads in the forest. During the middle of July individuals of this species were noted carrying nesting material. A laying female was collected on July 10, 4½ miles south-southwest of Lolo Pass and an adult male on July 18, 4 miles south-southwest of Lolo Pass. Another specimen was secured on September 28, 6 miles southwest of Selway Falls.

Hylocichla guttata guttata. Hermit thrush. No individuals of this species were seen or heard during the month of July in the Lolo Pass region. It is possible that they had passed the period of song and were overlooked. Two adult females were collected 4 miles southwest of Selway Falls, on September 17 and 25, respectively. These proved to be of the race H. g. guttata rather than H. g. auduboni which breeds in parts of Idaho.

Hylocichla ustulata almae. Olive-backed thrush. These thrushes were very abundant during July in the upper watershed of the Lochsa Fork. A nest containing 4 eggs was found in a clump of alders about one-half mile above the mouth of Brushy Creek on July 11. Ten days later an examination of the nest showed four young present. Their eyes were partly open at this time. Singing individuals were noted from the canyon bottoms almost to timber line. A single individual was seen and collected on September 11, 2 miles south-southeast of Selway Falls at 1,900 feet elevation. On July 6 an adult male was secured 4 miles south-southwest of Lolo Pass at 4,000 feet elevation and on July 16 another adult male was collected 8½ miles southeast of Lolo Pass at 7,000 feet elevation.

Sialia currucoides. Mountain bluebird. Many individuals were noted in the Crags Mountains on September 20. On this date a male was secured at Canteen Meadow, 9 miles northeast of Selway Falls. Myadestes townsendi. Townsend solitaire. Members of this species were frequently observed during July in the Lolo Pass region in areas where there were seattered conifers and numerous boulders or rock slides. In September many small groups of solitaires were seen in the Selway Falls region. On occasions they were seen feeding on the berries of mountain ash and western yew. Some individuals were noted eatching insects in the air. Three specimens, two males and a female, were secured on September 9 and 10, 2 miles south-southeast of Selway Falls at 1,900 feet elevation.

Regulus satrapa amoenus. Golden-crowned kinglet. Common during July in dense spruce and alpine fir forests in the Lolo Pass region. Two males, each with enlarged gonads, and each carrying food, were collected on July 8, 6 miles south-southwest of Lolo Pass at an elevation of 6,000 feet. Small groups of golden-crowned kinglets were observed a number of times in Englemann spruce forests during September and one male was seeured on September 12, 4 miles southwest of Selway Falls at 5,500 feet elevation.

Anthus spinoletta pacificus. Water pipit. This species was recorded in the Crags Mountains on September 20. On this occasion several flocks were seen in open country and a female was collected at Canteen Meadow, 9 miles northeast of Selway Falls at 6,600 feet elevation.

Vireo gilvus. Warbling vireo. A few individuals were seen or heard singing, particularly in aspens or alders, in the Lolo Pass region below the 5,000-foot level during July.

Dendroica auduboni auduboni. Audubon warbler. Common during July in forested areas in the Lolo Pass region. Two breeding males were collected, one on July 9, 8½ miles southeast of Lolo Pass at 7,000 feet elevation, the other on July 13, 6 miles south-southwest of Lolo Pass at 6,000 feet elevation. This species was frequently observed during September in the vieinity of Selway Falls.

Dendroica townsendi. Townsend warbler. This appeared to be the most abundantly represented species of warbler in the Lolo Pass region in July. Townsend warblers were observed or heard in most types of coniferous forests between 4,000 and 6,000 feet elevation, but were perhaps most numerous where lodgepole pine predominated. Singing males were heard daily during July and, on July 5, 2 pairs were seen along Brushy Creek each of which appeared to have young that had just left the nest. The females of each of these pairs, when approached by the observer, displayed near the ground with fluttering wings as though attempting to distract attention from fledglings nearby. Such displays were repeated a few hours later the same day when the observer returned. In each instance this time, however, the females were some yards away from the previous seene of

anxiety. On July 6, an adult male and an adult female were collected 4 miles south-southwest of Lolo Pass.

Oporornis tolmiei tolmiei. Tolmie warbler. This species was frequently observed in the Lolo Pass region during July. Pairs were most commonly seen in small forest openings where there was a dense growth of brushy shrubs. Two males were secured 4 miles south-southwest of Lolo Pass, one on July 4 and the other on July 6.

Wilsonia pusilla pilcolata. Pilcolated warbler. These warblers were fairly common during July in the upper part of the Lochsa Fork watershed. They were most frequently observed in alder and willow growing either along streams or in forest openings. An adult female was collected on July 4, 4 miles south-southwest of Lolo Pass.

Piranga ludoviciana. Western tanager. Noted commonly wherever there were coniferous forests in the Lolo Pass region during July. This species was noted on September 6 and 10, 2 miles south-southeast of Selway Falls. On the latter date a male was collected.

Hesperiphona vespertina brooksi. Evening grosbeak. Noted commonly during July in the Lolo Pass region. Individuals of this species were sometimes seen singly or in what appeared to be pairs but most frequently they were observed in flocks, the largest of which consisted of as many as 30 birds. Small groups were noted daily about the author's camp, frequently in company with pine siskins and red crossbills. Members of all three species seemed attracted to the ashes of the camp fire where they picked up and swallowed bits of charcoal. Two adult males with enlarged gonads were collected on July 2, 4 miles south-southwest of Lolo Pass. The testes of one measured 10 millimeters in length.

On September 23, 3 evening grosbeaks were observed 4 miles southwest of Selway Falls.

Carpodacus cassinii. Cassin finch. Individuals of this species were noted infrequently during July at higher elevations in the Lolo Pass region.

Pinicola enucleator. Pine grosbeak. Several individuals of this species were observed on September 23 and also on September 29, 4 and 6 miles southwest of Selway Falls, respectively.

Spinus pinus. Pine siskin. Pine siskins were numerous throughout forested parts of the Lolo Pass region in July. Small groups of these birds came daily to pick up bits of charcoal from the ashes of the author's camp fire. They paid little attention to bread crumbs that were placed out for them close to the ashes.

Loxia curvirostra bendirci. Red crossbill. This species was common throughout forested parts of the upper Lochsa Fork watershed during July. Wherever red crossbills were seen they were generally so numerous that it was difficult to determine whether they were all in flocks or whether some were paired off. However, since many males were noted singing regularly and a female that was collected on July 21, 4 miles south-southwest of Lolo Pass, was laying, it appeared that some of these birds were nesting. A male secured on July 19, 6 miles south-southwest of Lolo Pass had testes 5 millimeters in length. Red crossbills, like evening grosbeaks and pine siskins came into camp regularly to secure charcoal from the campfire ashes.

Passerculus sandwichensis anthinus. Savannah sparrow. Flocks of savannah sparrows were noted on several occasions during the middle of September in open grassy situations on Burned Ridge, 4 miles southwest of Selway Falls. Four specimens $(3 \circ \circ, 1 \circ)$ secured on September 16 and 23, proved on comparison to belong to the race P. s. anthinus rather than P. s. nevadensis, the form that breeds in parts of Idaho.

Junco oreganus montanus. Oregon junco. Juncos were present, though not numerous, in the Lolo Pass region in July. Two males were secured, one on July 13, 6 miles south-southwest of Lolo Pass and the other on July 16, 8½ miles southeast of Lolo Pass. In September numerous flocks were noted in the Selway region. Three specimens were collected, 1 at Canteen Meadow, 9 miles northeast of Selway Falls on September 20 and 2 on September 11, 4 miles southwest of Selway Falls.

Spizella passerina arizonae. Chipping sparrow. Noted frequently during July in the Lolo Pass region. A male that was carrying food in its bill was collected on July 8. The gonads of this individual were noticeably enlarged. Chipping sparrows were observed during the early part of September in the Selway region. On September 6, 8 individuals were counted along the course of a three-mile walk near Selway Falls.

Zonotrichia leucophrys leucophrys. White-crowned sparrow. Members of this species were noted commonly during July in willow and alder thickets about the margins of lakes in the higher parts of the northern Bitterroot and northeastern Clearwater mountains.

Zonotrichia leucophrys gambelii. White-erowned sparrow. Numerous flocks of white-crowned sparrows were seen during the month of September in the Selway region. Four specimens collected 4 miles southwest of Selway Falls between September 11 and 16 were all migrants of the race Z. l. gambelii.

Passerella iliaca schistacea. Fox sparrow. Fox sparrows were exceedingly scarce in the Bitterroot-Clearwater area. The species was recorded only once. On July 8, a pair were seen in brushy growth in an open forest 6 miles south-southwest of Lolo Pass. The singing male was collected.

Melospiza melodia. Song sparrow. A single song sparrow was seen on July 20 along Brushy Creek, 4 miles south-southwest of Lolo Pass.

LITERATURE CITED

ARVEY, M. D.

1947. A check-list of the birds of Idaho. Univ. Kansas Publ. Mus. Nat. Hist., 1:193-216.

BURLEIGH, T. D.

1923. Notes on the breeding birds of Clark's Fork, Bonner County, Idaho. Auk, 40:653-665.

HAND, R. L.

1941. Birds of the St. Joe National Forest, Idaho. Condor, 43:220-232, figs. 61-63.

JOHNSON, D. W.

1949. Populations and distribution of summer birds of Latah County, Idaho. Condor, 51:140-149, fig. 20.

LINDGREN, W.

1904. A geological reconnaissance across the Bitterroot Range and Clearwater Mountains in Montana and Idaho. U. S. Geol. Surv., Prof. Pap. 27, 123 pp., 15 pls., 8 figs.

MERRILL, J. C.

1897. Notes on the birds of Fort Sherman, Idaho. Auk, 14:347-357.

1898. Notes on the birds of Fort Sherman, Idaho. Auk, 15:14-22.

MUNRO, J. A. and I. McT. COWAN

1947. A review of the bird fauna of British Columbia British Columbia Prov. Mus., Special Publ. 2, 285 pp., 42 figs. in text.

ORR, R. T.

1943. Mammals of the Clearwater Mountains, Idaho. Proc. Calif. Acad. Sci., 4th Ser., 23:511-536, pls. 45-47.

PITELKA, F. A.

1941. Distribution of birds in relation to major biotic communities. Amer. Mid. Nat., 25:113-137, 11 figs. in text.

Rust, H. J.

1915. An annotated list of the birds of Kootenai County, Idaho. Condor, 17:118-129, figs. 45-49.

VAN DYKE, E. C.

1919. The distribution of insects in western North America. Ann. Ent. Soc. America, 12:1-12.